

SEA/2702

IN THE CLAIMS

Please cancel claims 1-3, 5, 7, 8, 11-17, 19, and 21-24, without prejudice as follows:

1-24. (Cancelled)

Please add new claims 25-75 as follows:

25. (New) A substrate for use in a data storage system, comprising:

at least one core layer comprising at least one plastic or plastic composite material exhibiting a modulus of about 350 kpsi or greater and damping agents, reinforcing agents, or combinations thereof, wherein the damping agents, reinforcing agents, or combinations thereof, are substantially uniformly distributed within the plastic or plastic composite material; and

one or more skin layers disposed adjacent the at least one core layer, wherein the at least one core layer has a greater thickness than the one or more skin layers and the at least one plastic or plastic composite material comprises polyetherimide and mineral particles and the one or more skin layers comprise polyetherimide.

26. (New) The substrate of claim 25, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.

27. (New) The substrate of claim 25, wherein the reinforcing agents further comprise materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.

28. (New) The substrate of claim 25, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to about 65 weight %.

29. (New) The substrate of claim 25, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite

SEA/2702

material, different damping agents, different reinforcing agents, or combinations thereof, and at least one sub-layer comprises polyetherimide and mineral particles.

30. (New) The substrate of claim 25, wherein said substrate is formatted with servo control patterns.

31. (New) The substrate of claim 25, further comprising a disk comprising:
a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and
a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.

32. (New) The substrate of claim 31, wherein the substrate is disposed in a data storage system comprising:
a read/write head;
an actuator for moving said read/write head; and
a motor for rotating said disk.

33. (New) A substrate for use in a data storage system, comprising:
at least one core layer comprising at least one plastic or plastic composite material exhibiting a modulus of about 350 kpsi or greater and damping agents, reinforcing agents, or combinations thereof, wherein the damping agents, reinforcing agents, or combinations thereof, are substantially uniformly distributed within the plastic or plastic composite material; and
one or more skin layers disposed adjacent the at least one core layer, wherein the at least one core layer has a greater thickness than the one or more skin layers and the one or more skin layers comprise a polycarbonate material.

34. (New) The substrate of claim 33, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.

SEA/2702

35. (New) The substrate of claim 33, wherein the reinforcing agents further compris materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.
36. (New) The substrate of claim 33, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to about 65 weight %.
37. (New) The substrate of claim 33, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite material, different damping agents, different reinforcing agents, or combinations thereof.
38. (New) The substrate of claim 33, wherein said substrate is formatted with servo control patterns.
39. (New) The substrate of claim 33, further comprising a disk comprising:
a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and
a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.
40. (New) The substrate of claim 39, wherein the substrate is disposed in a data storage system comprising:
a read/write head;
an actuator for moving said read/write head; and
a motor for rotating said disk.
41. (New) The substrate of claim 33, wherein the plastic or plastic composite material is selected from the group consisting of polysulfone (PSU), polyethersulfone (PES), polyetherimide (PEI), polyphenylsulfide (PPS), polyphthalamide (PPA), liquid crystal polymer (LCP), polyethereth rketone (PEEK), polycarbonate (PCB) and combinations thereof.

SEA/2702

42. (New) A substrate for use in a data storage system, comprising:
at least one core layer made of a plastic or plastic composite material having damping agents, reinforcing agents, or combinations thereof; and
one or more skin layers made of a plastic or plastic composite material, and formed on at least one surface of the core layer, wherein at least one of the core or the one or more skin layers exhibits a modulus of 350 kpsi or greater, and wherein the at least one core layer has a greater thickness than the one or more skin layers and the at least one plastic or plastic composite material comprises polyetherimide and mineral particles and the one or more skin layers comprise polyetherimide.
43. (New) The substrate of claim 42, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.
44. (New) The substrate of claim 42, wherein the reinforcing agents further comprise materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.
45. (New) The substrate of claim 42, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to about 65 weight %.
46. (New) The substrate of claim 42, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite material, different damping agents, different reinforcing agents, or combinations thereof, and at least one sub-layer comprises polyetherimide and mineral particles.
47. (New) The substrate of claim 42, wherein said substrate is formatted with servo control patterns.
48. (New) The substrate of claim 42, further comprising a disk comprising:

SEA/2702

a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and

a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.

49. (New) The substrate of claim 48, wherein the substrate is disposed in a data storage system comprising:

a read/write head;

an actuator for moving said read/write head; and

a motor for rotating said disk.

50. (New) A substrate for use in a data storage system, comprising:

at least one core layer made of a plastic or plastic composite material having damping agents, reinforcing agents, or combinations thereof; and

one or more skin layers made of a plastic or plastic composite material, and formed on at least one surface of the core layer, wherein at least one of the core or the one or more skin layers exhibits a modulus of 350 kpsi or greater, and wherein the at least one core layer has a greater thickness than the one or more skin layers and the one or more skin layers comprise a polycarbonate material.

51. (New) The substrate of claim 50, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.

52. (New) The substrate of claim 50, wherein the reinforcing agents further comprise materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.

53. (New) The substrate of claim 50, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to about 65 weight %.

SEA/2702

54. (New) The substrate of claim 50, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite material, different damping agents, different reinforcing agents, or combinations thereof.

55. (New) The substrate of claim 50, wherein said substrate is formatted with servo control patterns.

56. (New) The substrate of claim 50, further comprising a disk comprising:
a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and
a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.

57. (New) The substrate of claim 56, wherein the substrate is disposed in a data storage system comprising:
a read/write head;
an actuator for moving said read/write head; and
a motor for rotating said disk.

58. (New) The substrate of claim 50, wherein the plastic or plastic composite material is selected from the group consisting of polysulfone (PSU), polyethersulfone (PES), polyetherimide (PEI), polyphenylsulfide (PPS), polyphthalamide (PPA), liquid crystal polymer (LCP), polyetheretherketone (PEEK), polycarbonate (PCB) and combinations thereof.

59. (New) An apparatus, comprising:
a disk drive spindle motor; and
at least one data storage disk mounted on said disk drive spindle motor wherein said storage disk comprises at least one core layer that is formed of a plastic or plastic composite material and damping agents, reinforcing agents, or combinations thereof, wherein the damping agents, reinforcing agents, or combinations thereof, are substantially uniformly distributed within the plastic or plastic composite material; and

SEA/2702

one or more skin layers disposed adjacent the at least one core layer, wherein the at least one core layer has a greater thickness than the one or more skin layers and the at least one plastic or plastic composite material comprises polyetherimide and mineral particles and the one or more skin layers comprise polyetherimide.

60. (New) The substrate of claim 59, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.

61. (New) The substrate of claim 59, wherein the reinforcing agents further comprise materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.

62. (New) The substrate of claim 59, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to 65 weight %.

63. (New) The substrate of claim 59, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite material, different damping agents, different reinforcing agents, or combinations thereof, and at least one sub-layer comprises polyetherimide and mineral particles.

64. (New) The substrate of claim 59, wherein said substrate is formatted with servo control patterns.

65. (New) The substrate of claim 59, further comprising:

a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and

a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.

SEA/2702

66. (New) The substrate of claim 65, wherein the substrate is disposed in a data storage system comprising:

- a read/write head;
- an actuator for moving said read/write head; and
- a motor for rotating said disk.

67. (New) An apparatus, comprising:

- a disk drive spindle motor; and

at least one data storage disk mounted on said disk drive spindle motor wherein said storage disk comprises at least one core layer that is formed of a plastic or plastic composite material and damping agents, reinforcing agents, or combinations thereof, wherein the damping agents, reinforcing agents, or combinations thereof, are substantially uniformly distributed within the plastic or plastic composite material; and

one or more skin layers disposed adjacent the at least one core layer, wherein the at least one core layer has a greater thickness than the one or more skin layers and the one or more skin layers comprise a polycarbonate material.

68. (New) The substrate of claim 67, wherein the plastic or plastic composite material exhibits a modulus in the range of about 350 to about 3,000 kpsi.

69. (New) The substrate of claim 67, wherein the reinforcing agents further comprise materials selected from the group consisting of carbon fibers, glass fibers, and combinations thereof.

70. (New) The substrate of claim 67, wherein the damping agents, reinforcing agents, or combinations thereof in the plastic or plastic composite material have a concentration in the range of about 5 to about 65 weight %.

71. (New) The substrate of claim 67, where the at least one core layer comprises one or more sublayers, wherein each sublayer comprises a different plastic or plastic composite material, different damping agents, different reinforcing agents, or combinations thereof.

SEA/2702

72. (New) The substrate of claim 67, wherein said substrate is formatted with servo control patterns.

73. (New) The substrate of claim 67, further comprising:

a magneto-optical or magnetic recording layer structure disposed on the at least one core layer or one or more skin layers; and

a carbon overcoat formed atop said magneto-optical or magnetic recording layer structure.

74. (New) The substrate of claim 73, wherein the substrate is disposed in a data storage system comprising:

a read/write head;

an actuator for moving said read/write head; and

a motor for rotating said disk.

75. (New) The substrate of claim 67, wherein the plastic or plastic composite material is selected from the group consisting of polysulfone (PSU), polyethersulfone (PES), polyetherimide (PEI), polyphenylsulfide (PPS), polyphthalamide (PPA), liquid crystal polymer (LCP), polyetheretherketone (PEEK), polycarbonate (PCB) and combinations thereof.